ROSAT PSPC and HRI OBERSVATIONS OF SUPERNOVA REMNANT G292.0+1.8

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The supernova remnant G292.0+1.8 was observed by the ROSAT PSPC for 18 ksec as part of this grant. Considerable effort was put into the analysis of the PSPC spectra (by Hughes and his student I.M. Harrus). The major work went into nonequilibrium ionization joint spectral fits with the Einstein SSS and EXOSAT ME data which indicated that the two spatial regions of this remnant (a central bar and a plateau region covering a larger extent) had similar abundances, but different excitation conditions (temperature and ionization state), an important conclusion, if true. Unfortunately as this work was being finished, new ASCA data revealed the presence of a previously unknown, spectrally hard X-ray source near the center of the remnant which contaminated the SSS and ME data and as a consequence made our detailed spectral analysis done up until then unpublishable. We searched for evidence of this hard source in the PSPC data both spectrally and using timing searches (for a pulsar), but found nothing significant.

ROSAT HRI data were also obtained on this remnant. These data were compared to the Einstein HRI data to search for evidence of spectral variations with position and possible expansion of the X-ray remnant. One feature in the remnant appears to have changed in brightness although it is not clear what is the cause of the change. No evidence for the hard ASCA source was apparent in the HRI data.